



University of Agronomic Sciences and Veterinary Medicine of Bucharest
Faculty of Horticulture

International Student Symposium "*Hortus Academicus*"

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CARASU VALLEY
BETWEEN NATURAL AND ANTHROPIC LANDSCAPE

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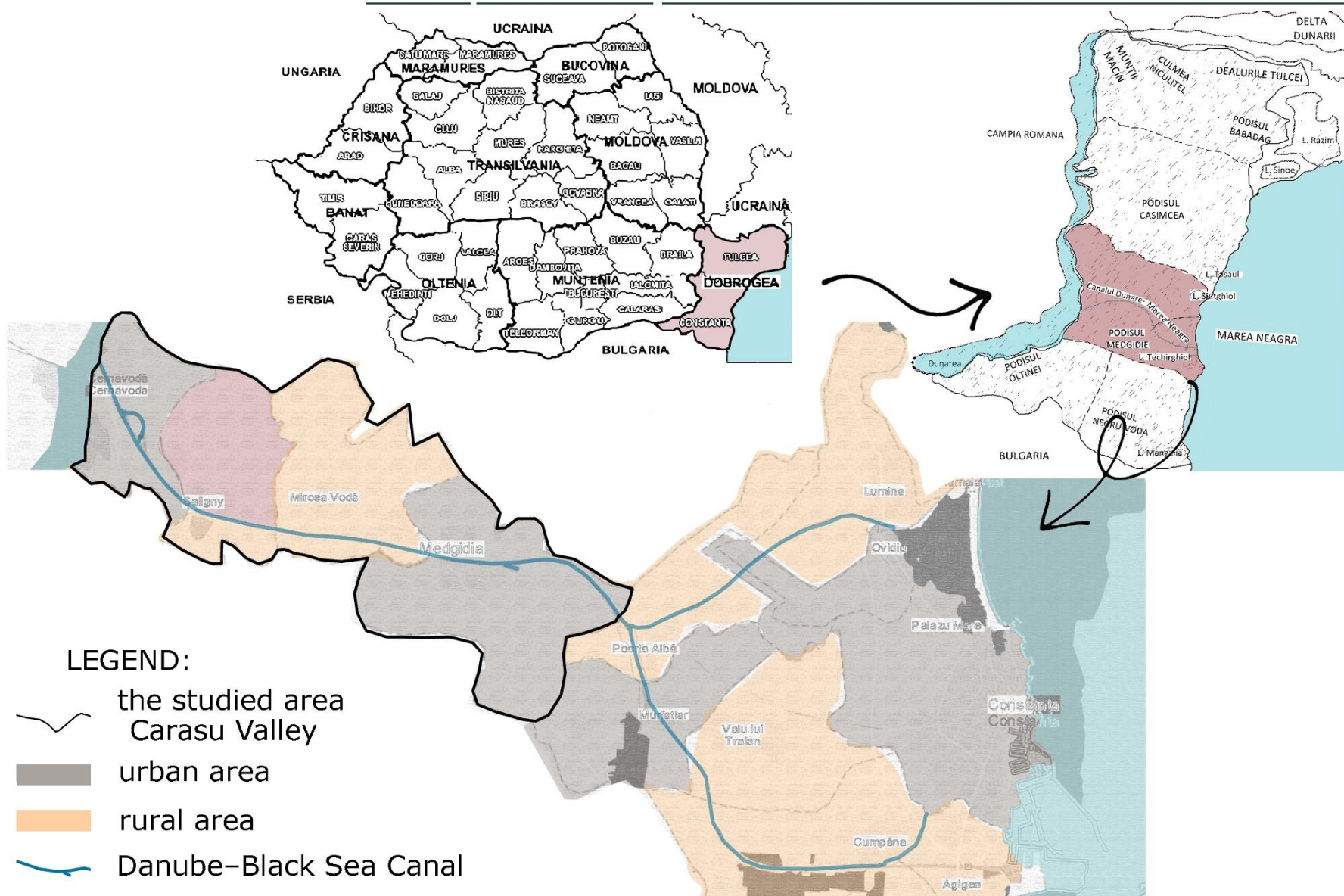
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Introduction

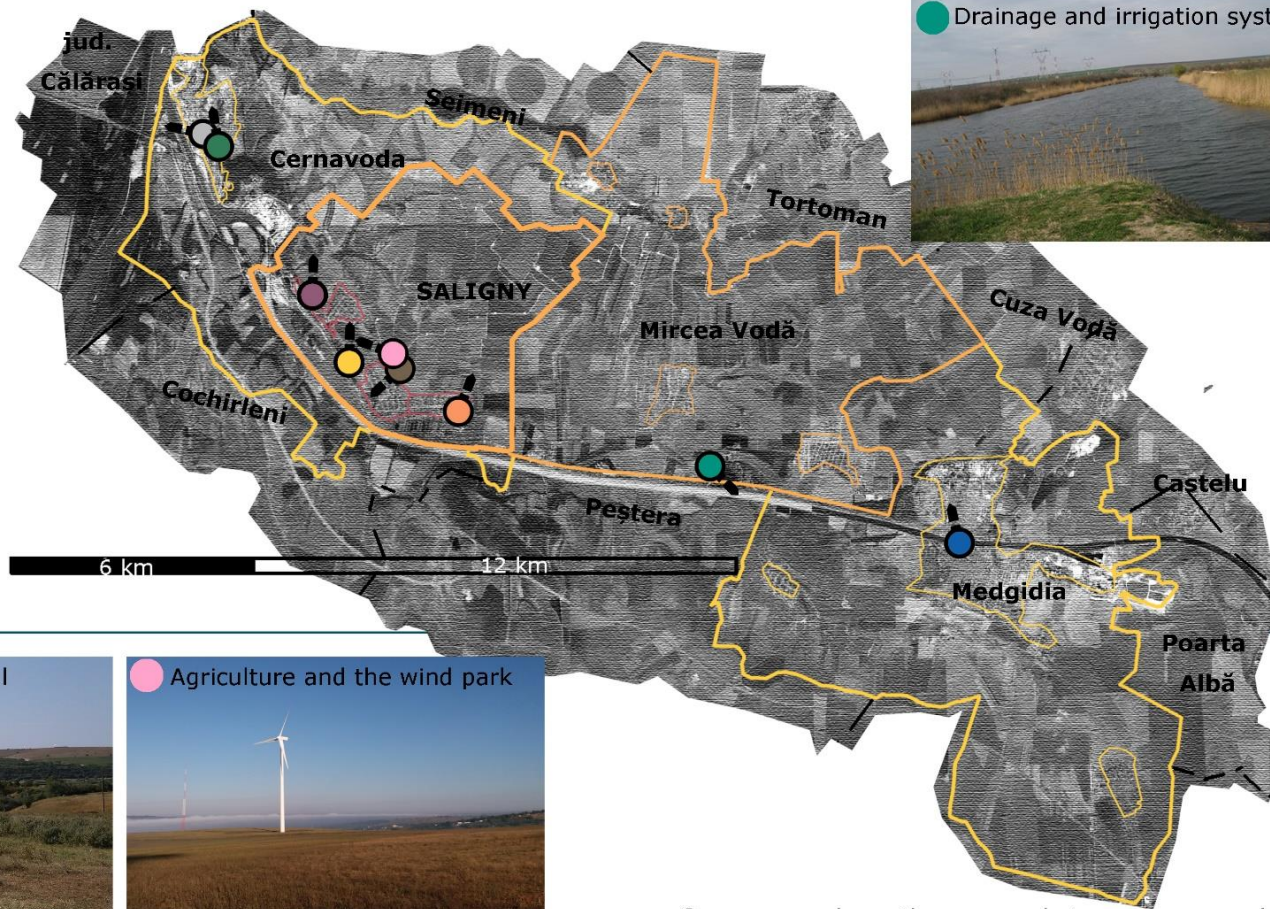
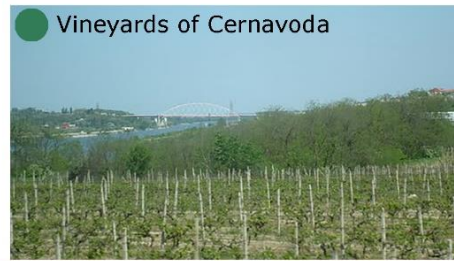
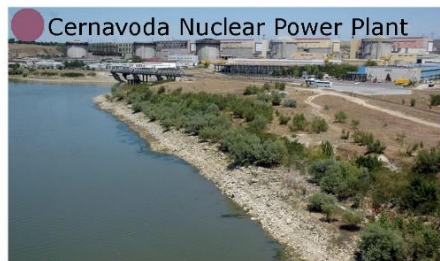
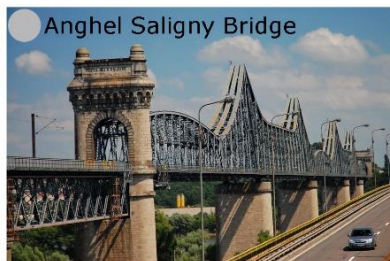


Territorial context





Presentation of the territory



Source: google earth pro, google images, own archive.

Coordinator Professor: Lecturer PhD Claudia FABIAN

Student: Andreea CHIRIAC

Materials and Methods

I. Theoretical documentation/information seeking:

- scientific publications : ICPDR – flow Danube River and Professor Adrian Ilie – the specificity of the area ;

II. Practical documentation:

- gathering information about the site from libraries and archives (photos and maps, vegetation management plans);
- direct examination of the site under study: dominant species analysis and anthropic impact analysis;

III. The processing and synthetisation of the information resulted from the two types of documentation.

Results and discussions



The Danube River Route



LEGEND:

~ Natural waterways

— Waterways

A - Danube-Main-Rhin

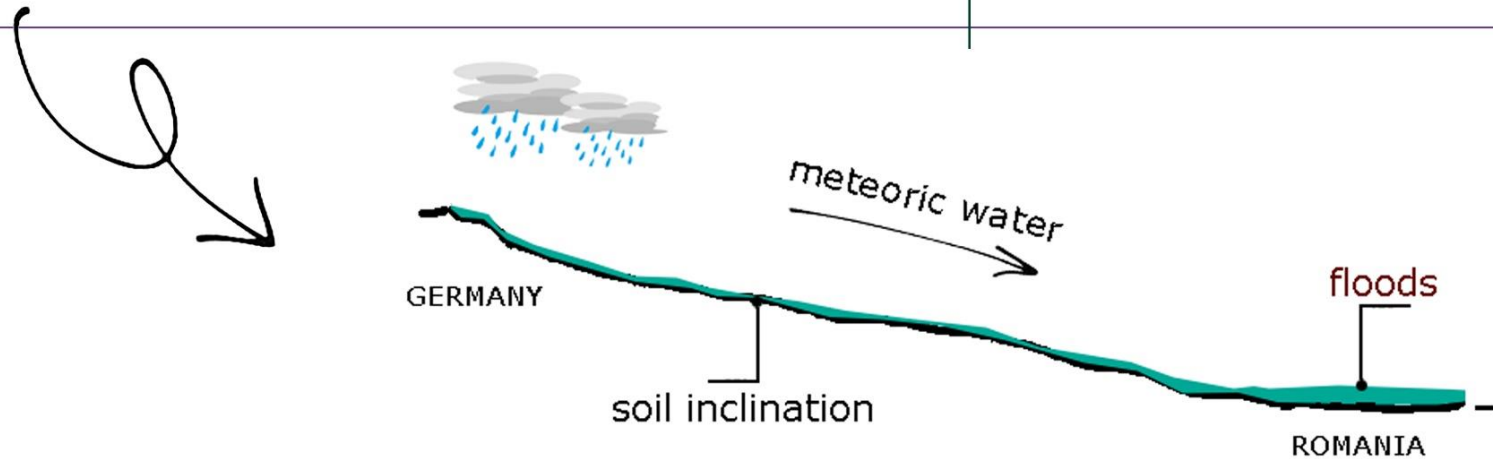
B - Danube-Black Sea

— Significant tributaries

○ City

● Capital

- - - Borders



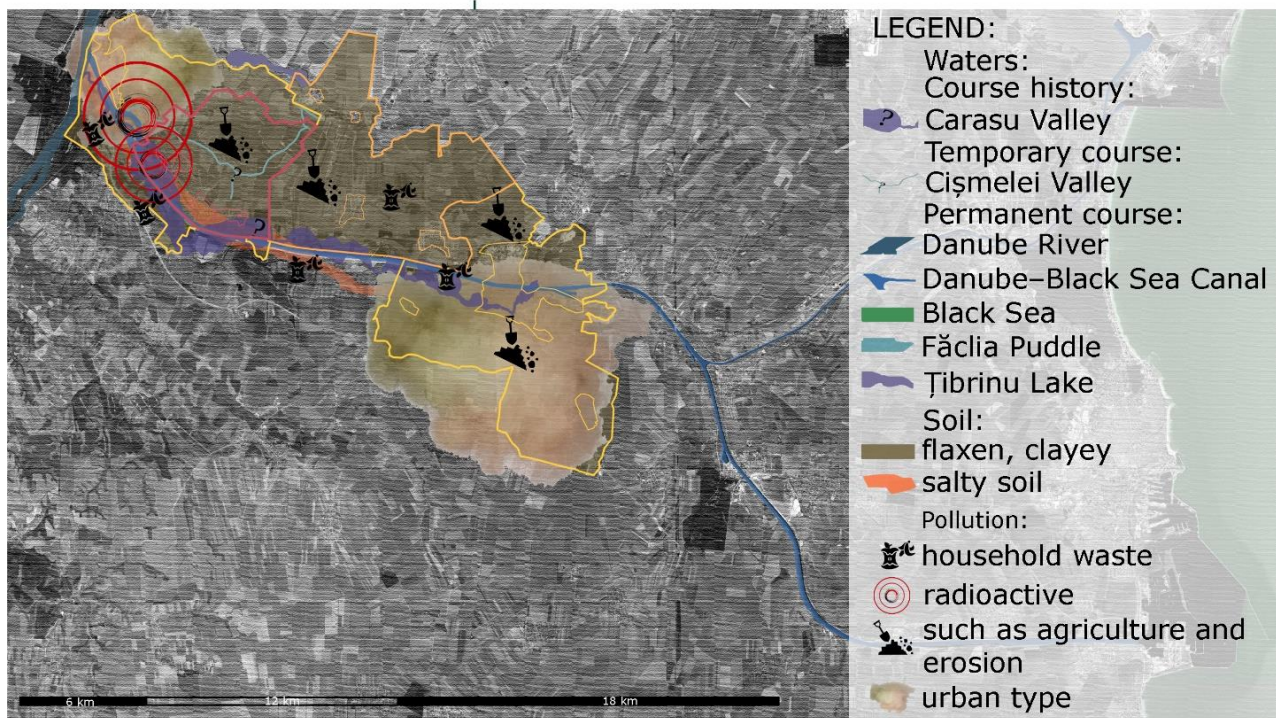
Source: researchgate.net, scrigroup.com, icpdr.org.

Coordinator Professor: Lecturer PhD Claudia FABIAN

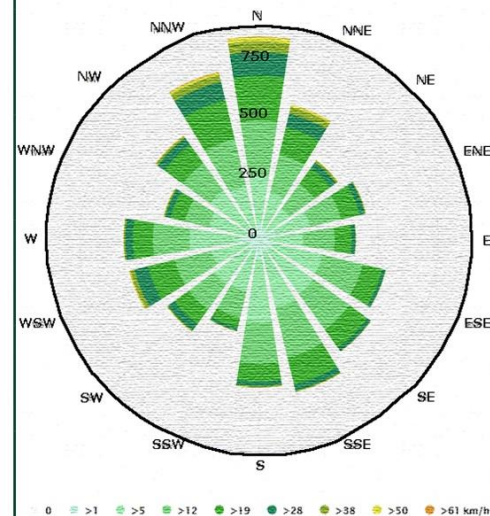
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Particularities of the Carasu Valley



Cardinal:



Temperature:



annual average: 11,2°C;
 absolute maximum: +43°C;
 absolute minimum: -17,6°C;

Climate: **dry** and droughty;



deep freezing: 0,8-0,9 m;

Rainfall:



annual average: 400-500 mm;
 after defrosting the snow and in the warm season (June to July).
year 1966: 830 mm;
 year 1993: 103,5 mm/24h;
 year 1954: 136 cm, layer of snow;

Groundwater:



in the valley (15-30 m): 3-5 m;
 on the hill (30-110 m): 5-35 m;
 - rich aquifer layers;



steppe, agriculture predominates;

Risks:



Flooding:

- **water stagnation and expansion** to the inhabited area.
- **landslides;**
- **rainfall erosion;**

Source: google earth pro, PUG Saligny 2014, www.meteobue.com, Lecturer PhD Adrian ILIE.

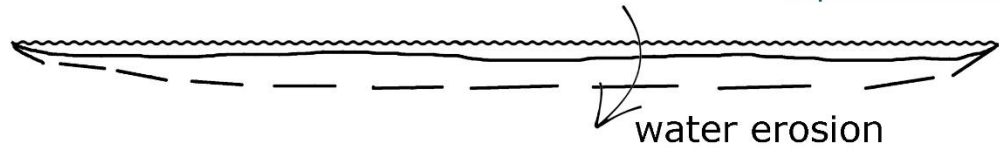
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Evolution of the Carasu Valley

- Dobrogea
- "plain erosion"
 - covered with water

between the Cretaceous
and the Jurassic period



- tributary of the Danube;

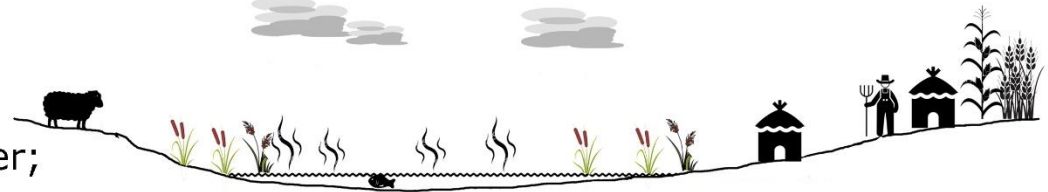
approximately between the
14th and 16th centuries

- becomes **navigable** in **rainy** periods;
- from Turkish "**kara-su**" = black water, is an outbreak of infections;



- expansion trend;

- people are building closer to the water;



17 century

- **planting the willows along the valley to reduce water expansion;**



Source: Lecturer PhD Adrian ILIE, www.ziuconstanta.ro.

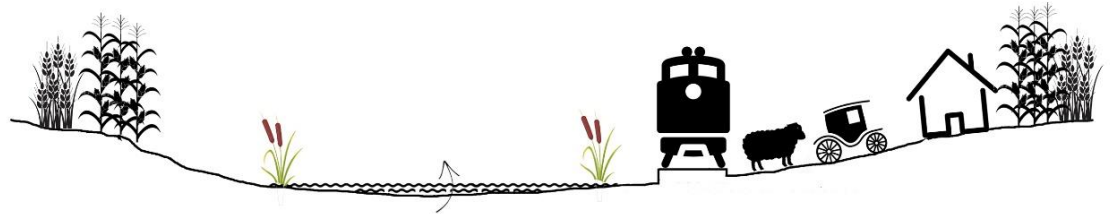
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19th century

railway Fetești-Constanța

- it links Dobrogea to the rest of the country;
- limiting water expansion but have returned;

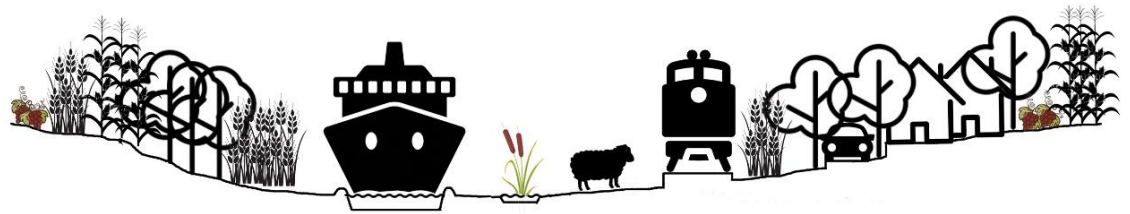


20th century

- gray infrastructure: **Danube-Black Sea Canal, drainage and irrigation system, agricultural cooperatives and Nuclear-Power Station;**

- green infrastructure: **plantations of protection** (predominant species: *Ulmus* sp., *Robinia* sp, *Gleditsia* sp), **intensive agriculture and agriculture ,viticulture;**

- succession: the area has become wet again, soil destruction through intensive farming, favoring pluvial erosion;



Source: Lecturer PhD Adrian ILIE, www.ziuaconstanta.ro.

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Influences from the neighborhood:

- waterproofing part of the agricultural land for the wind farm;
- expanding urban areas and modernizing road infrastructure in rural areas;

Sit:

- spontaneous vegetation, predominates species from the Poaceae family (*Festuca* sp., *Elymus communis*)
- shrubs: *Elaeagnus angustifolia* and *Prunus* sp.;

Park wind



Floods 2016



Carasu Valley



Asphalting streets and concrete gutters



Source: Lecturer PhD Adrian ILIE, www.ziuaconstanta.ro.

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Evolution of the Carasu Valley

about 1500



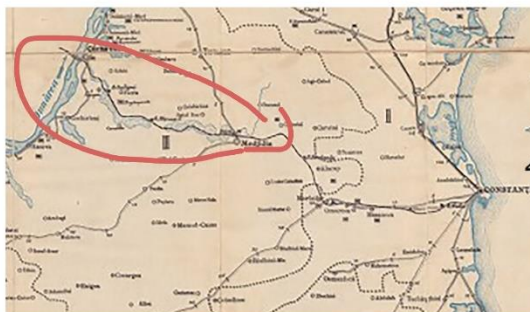
1794



1822



1903



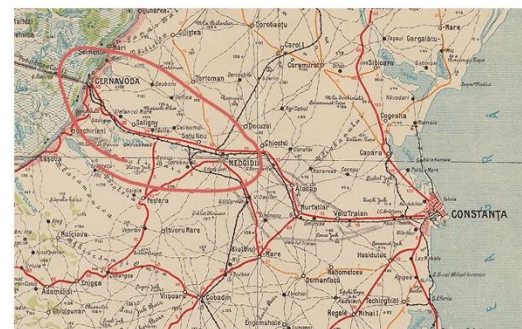
1885



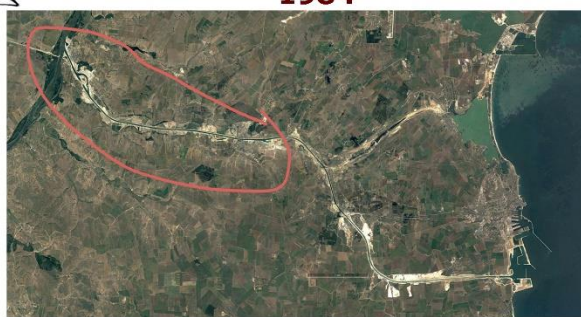
1840



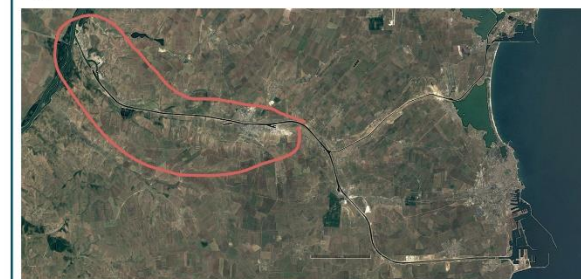
1928



1984



2000

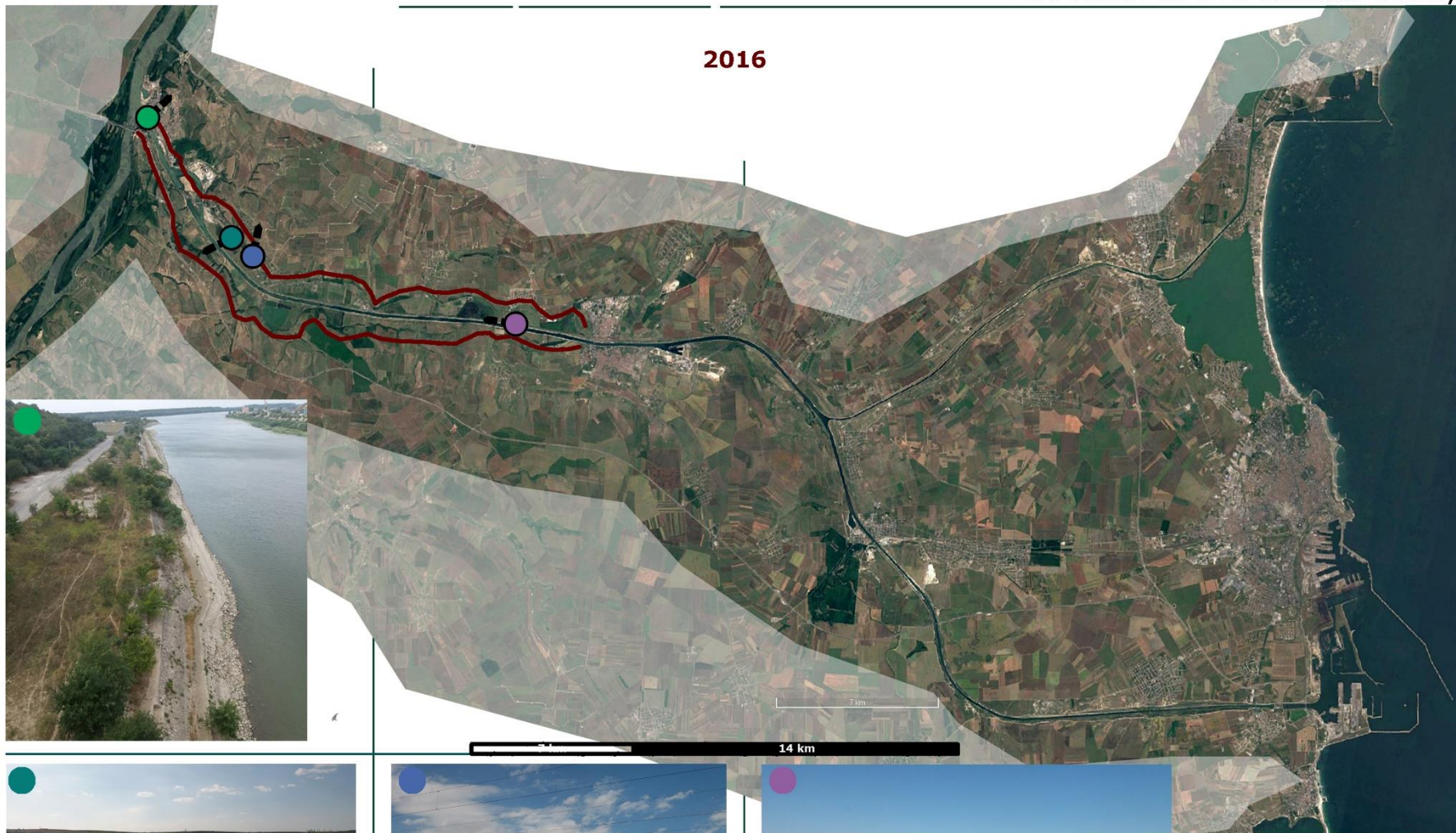


Source: historia.ro, www.ziuaconstanta.ro, google earth pro.

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2016

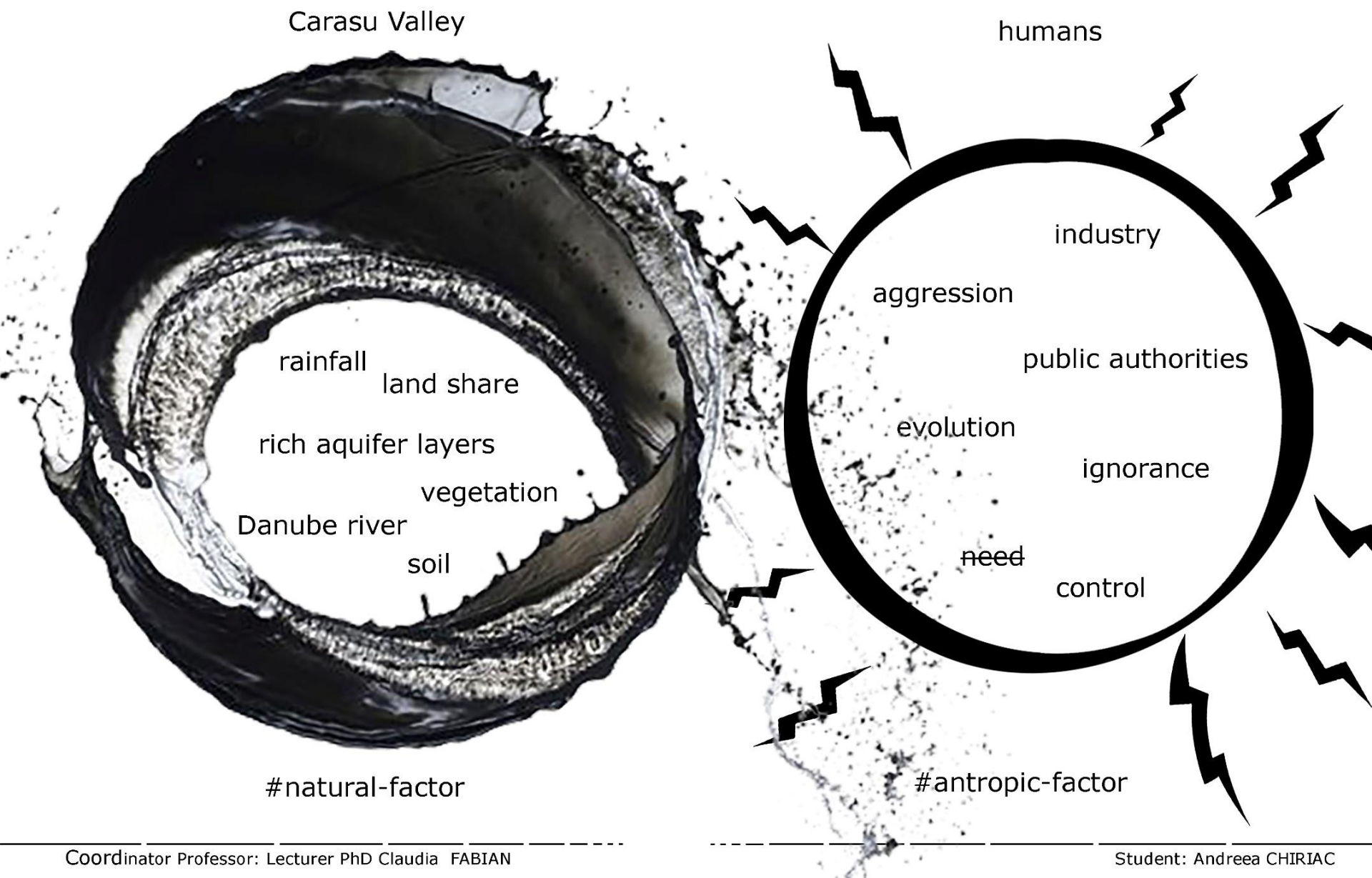


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Source: own archive, google earth pro.

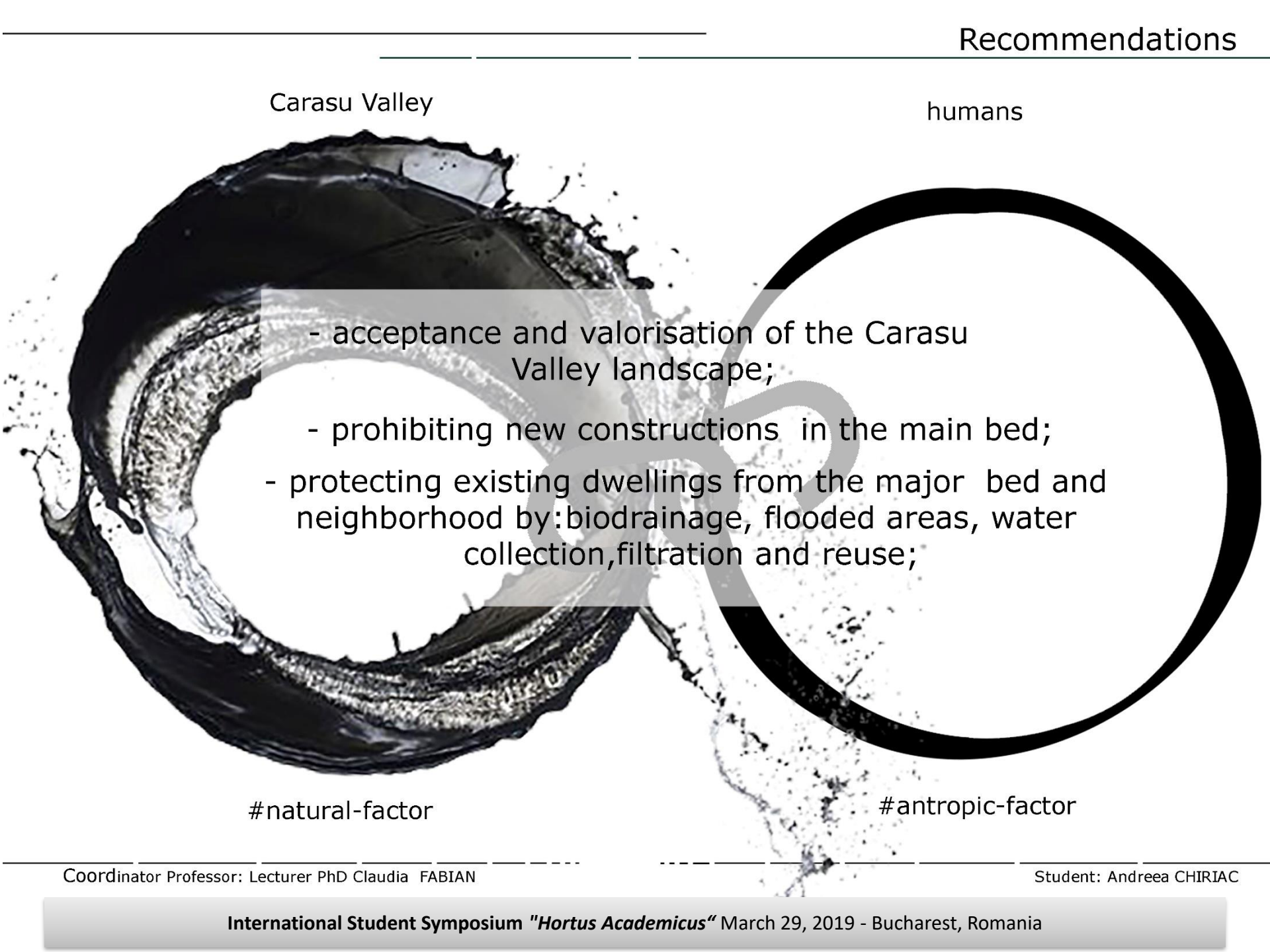
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Conclusions and recommendations



Carasu Valley

humans

- 
- acceptance and valorisation of the Carasu Valley landscape;
 - prohibiting new constructions in the main bed;
 - protecting existing dwellings from the major bed and neighborhood by: biodrainage, flooded areas, water collection, filtration and reuse;

#natural-factor

#antropic-factor

References

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